

**REMARKS**

Claims 1-11 are currently pending. The claims have been extensively reviewed and revised for readability but without the intention of narrowing the claims. Support for the changes to Claims 2 and 8 can be found at Page 6, line 11 through Page 7, line 1, for instance where the steps of detecting a short loop and then conducting final negotiations are disclosed (and supporting the term "substantially at the same time"). Also, Page 5, lines 1 through Page 6, line 17, for example, support the recitation of step (b) of the signals substantially identical to the signals used in the actual initialization step.

The Office Action includes a rejection under 35 U.S.C. § 1.12, second paragraph, suggesting that the term "short" is a relative term that renders the claims indefinite. While Applicant can contest this, it occurs to the undersigned that simple omission of the term would not be detrimental and have amended the claims accordingly. In this light of this change, withdrawal of the rejection of Claims 1-11 under 35 U.S.C. § 1.112, second paragraph, is respectfully requested.

The Office Action also includes a number of objections to the claims noting informalities. Applicant gratefully acknowledges the Examiner's diligence in this regard and have extensively reviewed and revised the claims for readability. In light of these changes, Applicant respectfully requests withdrawal of the claim objections.

The Office Action includes a rejection of Claims 1, 6, 7 and 11 under 35 U.S.C. § 103 as allegedly being unpatentable over the Chen patent (U.S. Patent No. 5,987,061) in view of the Illidge et al. patent application publication (US 2002/0085514); and a rejection of Claims 5 and 10 under 35 U.S.C. § 103 as allegedly being unpatentable over the Chen patent in view of the Illidge patent

application publication in further view of the Bruss patent application publication (US 2001/0026538). These rejections are respectfully traversed.

In the rejection, the Office suggests that the Chen patent merely lacks the Illidge method for handshaking. The alleged motivation for Chen to adopt Illidge's method being that "the enhanced method/system may then have expanded capability to support the second tone space (IS-2000 channels) where the second tone space may allow greater throughput in data transmission". Both the hypothetical combination and the method are not completely understood.

The Chen patent actually deals with a modem initialization process and begins an explanation of how "[u]nder favorable subscriber line conditions, this MDSL modem can provide a much higher data transmission throughput which is limited by channel capacity or the hardware capabilities of the subscriber-end modem." The relevant passage extends from column 18, line 16 through column 19, line 25, and in column 19, lines 3-6, explains that a "signature tone exchange process is preferably repeated for a limited number of times to determine a particular line code choice." Hence, the Chen patent appears to be describing what Applicant described in the Background section of the present application, *i.e.*, a multistep process for data rate negotiation. See generally, Column 9, lines 6-25, noting in particular lines 6-12 and 20-21.

Hence, the Chen patent fails to disclose the majority of the claim recitations, as apparently acknowledged in the Office Action since it refers to the Illidge patent application publication for the handshaking and negotiation steps (a) through (c) of Claim 1, for instance.

However, the Illidge et al. patent application publication is actually directed to a method of switching between high-speed packet data in 3G (third generation) CDMA cellular systems. More specifically as disclosed in the Abstract, IS-2000 (the third generation CDMA cellular communication protocol standard) has a high-speed data packet which does not support the lower speed IS-95 traffic channels. Outlined in the Illidge et al. patent application publication is a method where a call can be switched from a G3 IS-2000 high-speed data packet cellular call to either an IS-95 circuit switched data service call or an IS-707-A-5 low-speed data packet service option. Paragraph 37 simply outlines a method where the call is handed off to an IS-95 call link when an IS-2000 traffic channel is unavailable.

It is not immediately clear how one skilled in the art would be motivated to look at a hand-off protocol in a cellular-based telephone system when looking for ways to improve modem initialization in a VDSL line modem initialization. This is particularly true since the disclosures are at different layers in the hierarchy of communication protocols. Specifically, a hand-off routine involves a relatively higher level of communication protocols than a handshaking routine. Specifically, a hand-off protocol may involve multiple handshaking routines as the mobile telephone initiates various communication protocols with various cell sites, one of which it is in communication with for the voice transmission, but others are in communication with for determining which cell is appropriate to hand off to at the appropriate time.

Being that the levels of cellular telephony protocols are different between hand-off and handshaking, protocols for hand-off seem to be inappropriate for consideration in the handshaking routine, particularly, for handshaking routines in a VDSL modem environment such as shown in the Chen patent. Hence, Applicant

respectfully submits that the references are non-analogous, and even if analogous, the lessons of one would not translate to the other because they are in different communication environments and at different hierarchical levels of communication protocols.

Further, even taken in combination, the hypothetical combination as outlined in the Office Action would not meet the recitations of either independent Claims 1 or 7. Specifically, the hypothetical combination as outlined in the Office Action would nevertheless lack the combination of three steps outlined in Claim 1. Claim 1 recites handshaking basic required information between two stations in a first tone-space mode. The handshaking facilitates determination of whether or not each of the two stations supports a second tone-space mode. This is different than the Illidge system determining whether a space station supports IS-2000 or IS-95 since these are high-level protocols, rather than tone-space modes, which resides closer to the physical layer protocols.

Further, it is noted that the step of switching the first tone-space mode to the second tone-space mode as recited in Claim 1 is between the handshaking step and the exchange of information that is actually needed for data communications to begin. The Chen patent discloses, at best, handshaking and then exchanging information actually needed in the data communications and the Illidge patent application publication does not dwell into this level of detail since it concerns itself with a higher level of protocol. Neither reference teaches the three steps wherein the process can switch from the first tone-space to the second tone-space in a step between handshaking and exchanging information.

For at least the foregoing reasons, Applicant respectfully requests reconsideration and allowance of the above-captioned application.

Applicant notes that the Bruss patent application publication was cited merely for disclosing use of the non-standard message. It is not immediately clear why one would use the Bruss disclosure to modify a hypothetical combination of Chen and Illidge to include non-standard message since the hypothetical combination would be outside of any standard of record anyway, but more importantly the Chen and Illidge combination does not meet the recitations of the claims from which Claims 5 and 10 depend. Accordingly, even in combination, the applied prior art does not meet the recitations of any of the pending claims.

Applicant respectfully requests the issuance of a Notice of Allowance indicating that all pending Claims 1-11 are in condition for allowance. Should any residual issues exist or arise, the Examiner is invited to contact the undersigned at the number listed below.

Respectfully submitted,

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